Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for facilitating transfer of a data object retained by ~~a first~~ at least one computer-readable data storage device in communication with a first computing system from said first computing system to a second computing system and thence to a second computer-readable data storage device, comprising the step of segmenting said data object into a plurality of data object segments retained by said computer-readable data storage devices, said segmenting said data object comprising the steps of:

requesting a range of addresses within said first computer-readable data storage device containing said data object;

determining a number of computer-readable storage devices in communication with said first computing system available to retain a plurality of segments of said data object;

determining a maximum digital data transfer load for the computer-readable storage devices in communication with said first computing system;

assigning a minimum segment size which is the smallest amount of digital data to be contained within one segment of the data object;

calculating a first segment size as a first function of a number of the computer-readable storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size;

assigning a last segment size as the minimum segment size;

calculating all remaining segment sizes as a second function of the number of the computer-readable storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size; and

partitioning said data object into said plurality of data object segments to be retained by said computer-readable data storage devices whereby ~~the~~ a first data object segment ~~of the data object~~ is of the first segment size, ~~the~~ a data object last segment ~~of the data object~~ is of the last segment size, and all ~~the~~ remaining data object segments ~~of the data object is~~ are of the remaining segment sizes.

2. (Currently Amended) The method of claim 1 wherein said segmenting further comprises the steps of:

assigning one of the number of computer-readable storage devices to retain each of the plurality data object segments ~~of the data object~~;

assigning an address within the computer-readable storage devices to identify the location of an assigned segment;

assigning an object name to each of the plurality of data object segments ~~of the data object~~; and

transferring each segment to its assigned computer-readable storage device.

3. (Currently Amended) The method of claim 1 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N_d} + \left(\mathbf{M_l} / \mathbf{M_l} - \mathbf{C_l} \right)$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

$\mathbf{M_l}$ is the maximum digital data transfer load, and

$\mathbf{C_l}$ is the current digital data transfer load.

4. (Currently Amended) The method of claim 1 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize_{min}}, \mathbf{V/f})$$

where

Segn is the a segment size for one data object segment of the remaining data object segments,

max is the maximum function of two variables,

SegSize$_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right)$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load, and

C_l is the current digital data transfer load.

5. (Previously Presented) The method of claim 1 wherein said segmenting further comprises the step of:

determining a file interactivity factor describing a number of jumps by the second computing system within the data object during processing by said second computing system.

6. (Original) The method of claim 5 wherein the first function is further dependent upon the file interactivity factor.

7. (Currently Amended) The method of claim 6 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N_d} + \left(\mathbf{M_I} \big/ \mathbf{M_I} - \mathbf{C_I} \right) + \mathbf{I}$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

I is the file interactivity factor.

8. (Original) The method of claim 5 wherein the second function is further dependent upon the file interactivity factor.

9. (Currently Amended) The method of claim 8 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Segn is the a segment size for one data object segment of the remaining data object segments,

max is the maximum function of two variables,

$SegSize_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + I$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

I is the file interactivity factor.

10. (Previously Presented) The method of claim 1 wherein said segmenting further comprises the step of:

determining a file usage factor describing a number of requests for said data object for a period of time.

11. (Original) The method of claim 9 wherein the first function is further dependent upon the file usage factor.

12. (Currently Amended) The method of claim 10 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N_d} + \left(\mathbf{M_l} \big/ \mathbf{M_l} - \mathbf{C_l} \right) + \mathbf{H}$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

13. (Original) The method of claim 9 wherein the second function is further dependent upon the file usage factor.

14. (Currently Amended) The method of claim 13 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Segn is the a segment size for one data object segment of the remaining data object segments,

max is the maximum function of two variables,

SegSize$_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

15. (Previously Presented) The method of claim 1 wherein said segmenting further comprises the steps of:

determining a file usage factor describing a number of requests for said data object for a period of time; and

determining a file interactivity factor describing a number of jumps by the second computing system within the data object during processing by said second computing system.

16. (Original) The method of claim 15 wherein the first function is further dependent upon the file usage factor and the file interactivity factor.

17. (Currently Amended) The method of claim 16 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H + I$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

18. (Original) The method of claim 15 wherein the second function is further dependent upon the file usage factor and the file interactivity factor.

19. (Currently Amended) The method of claim 18 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Segn is the a segment size for one data object segment of the remaining data object segments,

max is the maximum function of two variables,

$SegSize_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H + I$$

where

N_d is the number of storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

20. (Original) The method of claim 1 wherein the data object is a video data file to be transferred isochronously to the second computing system.

21. (Previously Presented) A digital data service system in communication with a plurality of computing systems to transfer at least one data object of a plurality of data objects to at least one of the plurality of computing systems, comprising:

a plurality of data object storage devices in communication with each other and with any of the plurality of computing systems for retaining each of said plurality of data objects; and

a segmentation apparatus in communication with the plurality of data object storage devices to fragment any of the data objects into a plurality of segments to allow transfer to and processing by at least one of the computing systems of said segments, wherein the segmentation apparatus performs said fragmenting by the steps of:

requesting a range of addresses within one of said data object storage devices containing said data object,

determining a number of said data object storage devices available to retain a plurality of segments of said data object,

determining a maximum digital data transfer load for the data object storage devices,

assigning a minimum segment size which is the smallest amount of digital data to be contained within one segment of the data object,

calculating a first segment size as a first function of a number of the data object storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size,

assigning a last segment size as the minimum segment size,

calculating all remaining segment sizes as a second function of the number of the data object storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size, and

partitioning said data object into segments whereby the first segment of the data object is of the first segment size, the last segment of the data object is of the last segment size, and all the remaining segments of the data object is of the remaining segment sizes;

22. (Cancelled)

23. (Previously Presented) The system of claim 21 wherein the segmentation apparatus the further performs the steps of:

assigning one of the number of data object storage devices to retain each segment of the data object;

assigning an address within the data object storage devices to identify the location of an assigned segment;

assigning an object name to each segment of the data object; and

transferring each segment to its assigned data object storage device.

24. (Previously Presented) The system of claim 21 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right)$$

where

N_d is the number of storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load, and

C_l is the current digital data transfer load.

25. (Previously Presented) The system of claim 21 wherein the second function to determine the remaining segment sizes is:

$$Segn = \max(SegSize_{min}, V/f)$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

SegSize$_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right)$$

where

N_d is the number of storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load, and

C_l is the current digital data transfer load.

26. (Previously Presented) The system of claim 21 wherein the segmentation apparatus the further performs the step of:

determining a file interactivity factor describing a number of jumps by the computing system within the data object during processing by said second computing system.

27. (Original) The system of claim 26 wherein the first function is further dependent upon the file interactivity factor.

28. (Previously Presented) The system of claim 27 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables

$\mathbf{SegSize}_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N}_d + \left(\mathbf{M}_I \Big/ \mathbf{M}_I - \mathbf{C}_I \right) + \mathbf{I}$$

where

N_d is the number of storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

I is the file interactivity factor.

29. (Previously Presented) The system of claim 21 wherein the second function is further dependent upon the file interactivity factor.

30. (Previously Presented) The system of claim 29 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$\mathbf{SegSize_{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + I$$

where

$\mathbf{N_d}$ is the number of storage devices available to retain the segments of the data object,

$\mathbf{M_l}$ is the maximum digital data transfer load,

$\mathbf{C_l}$ is the current digital data transfer load, and

I is the file interactivity factor.

31. (Previously Presented) The system of claim 21 wherein the segmentation apparatus the further performs the step of:

determining a file usage factor describing a number of requests for said data object for a period of time.

32. (Original) The system of claim 31 wherein the first function is further dependent upon the file usage factor.

33. (Previously Presented) The system of claim 32 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N}_d + \left(\mathbf{M}_l \big/ \mathbf{M}_l - \mathbf{C}_l \right) + \mathbf{H}$$

where

N_d is the number of storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

34. (Original) The system of claim 31 wherein the second function is further dependent upon the file usage factor.

35. (Previously Presented) The system of claim 34 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

SegSize$_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H$$

where

N_d is the number of storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

36. (Previously Presented) The system of claim 21 wherein the segmentation apparatus the further performs the steps of:

determining a file usage factor describing a number of requests for said data object for a period of time; and

determining a file interactivity factor describing a number of jumps by the computing system within the data object during processing by said second computing system.

37. (Original) The system of claim 36 wherein the first function is further dependent upon the file usage factor and the file interactivity factor.

38. (Previously Presented) The system of claim 37 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H + I$$

where

N_d is the number of storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

39. (Original) The system of claim 37 wherein the second function is further dependent upon the file usage factor and the file interactivity factor.

40. (Previously Presented) The system of claim 39 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$\mathbf{SegSize_{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f = N_d + \left(M_l / M_l - C_l \right) + H + I}$$

where

$\mathbf{N_d}$ is the number of storage devices available to retain the segments of the data object,

$\mathbf{M_l}$ is the maximum digital data transfer load,

$\mathbf{C_l}$ is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

41. (Original) The system of claim 21 wherein the data object is a video data file to be transferred isochronously to the computing system.

42. (Currently Amended) An apparatus for facilitating transfer of a data object retained by ~~a first~~ at least one computer-readable data storage device in communication with a first computing system from said first computing system to a second computing system and thence to a second computer-readable data storage device, comprising means for segmenting said data object into a plurality of data object segments retained by said computer-readable data storage devices, said means for segmenting said data object comprising:

means for requesting a range of addresses within said first computer-readable data storage device in communication with the first computing system containing said data object;

means for determining a number of computer-readable storage devices in communication with said first computing system available to retain a plurality of segments of said data object;

means for determining a maximum digital data transfer load for the computer-readable storage devices in communication with said first computing system;

means for assigning a minimum segment size which is the smallest amount of digital data to be contained within one data object segment ~~of the data object~~;

means for calculating a first segment size as a first function of a number of the computer-readable storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size;

means for assigning a last segment size as the minimum segment size;

means for calculating all remaining segment sizes as a second function of the number of the computer-readable storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size; and

means for partitioning said data object into a plurality of data object segments retained by said computer-readable data storage devices whereby ~~the first~~ a first data object segment ~~of the data object~~ is of the first segment size, the last data object segment ~~of the data object~~ is of the last segment size, and all the remaining data object segments ~~of the data object~~ is of the remaining segment sizes.

43. (Currently Amended) The apparatus of claim 42 wherein said means for segmenting said data object further comprises:

means for assigning one of the number of computer-readable storage devices to retain each data object segment ~~of the data object~~;

means for assigning an address within the computer-readable storage devices to identify the location of an assigned segment;

means for assigning an object name to each data object segment ~~of the data object~~; and

means for transferring each segment to its assigned computer-readable storage device.

44. (Currently Amended) The apparatus of claim 42 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize_{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f = N_d + \left(M_l / M_l - C_l \right)}$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

$\mathbf{M_l}$ is the maximum digital data transfer load, and

$\mathbf{C_l}$ is the current digital data transfer load.

45. (Currently Amended) The apparatus of claim 42 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn = max(SegSize_{min}, V/f)}$$

where

Segn is the a segment size for one data object segment of the remaining data object segments,

max is the maximum function of two variables,

$\mathbf{SegSize_{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right)$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

$\mathbf{M_l}$ is the maximum digital data transfer load, and

$\mathbf{C_l}$ is the current digital data transfer load.

46. (Previously Presented) The apparatus of claim 42 wherein said means for segmenting said data object further comprises:

means for determining a file interactivity factor describing a number of jumps by the second computing system within the data object during processing by said second computing system.

47. (Original) The apparatus of claim 46 wherein the first function is further dependent upon the file interactivity factor.

48. (Currently Amended) The apparatus of claim 47 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + I$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

I is the file interactivity factor.

49. (Original) The apparatus of claim 46 wherein the second function is further dependent upon the file interactivity factor.

50. (Currently Amended) The apparatus of claim 49 wherein the second function to determine the remaining segment sizes is:

$$Segn = \max(SegSize_{min}, V/f)$$

where

Segn is the a segment size for one data object segment of the remaining data object segments,

max is the maximum function of two variables,

$SegSize_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + I$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

I is the file interactivity factor.

51. (Previously Presented) The apparatus of claim 42 wherein said means for segmenting said data object further comprises:

means for determining a file usage factor describing a number of requests for said data object for a period of time.

52. (Original) The apparatus of claim 51 wherein the first function is further dependent upon the file usage factor.

53. (Currently Amended) The apparatus of claim 52 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

54. (Original) The apparatus of claim 51 wherein the second function is further dependent upon the file usage factor.

55. (Currently Amended) The apparatus of claim 54 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, V/f)$$

where

Segn is the a segment size for one data object segment of the remaining segments,

max is the maximum function of two variables,

$SegSize_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

56. (Previously Presented) The apparatus of claim 42 wherein said means for segmenting said data object further comprises:

means for determining a file usage factor describing a number of requests for said data object for a period of time; and

means for determining a file interactivity factor describing a number of jumps by the second computing system within the data object during processing by said second computing system.

57. (Original) The apparatus of claim 56 wherein the first function is further dependent upon the file usage factor and the file interactivity factor.

58. (Currently Amended) The apparatus of claim 57 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H + I$$

where

N_d is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

59. (Original) The apparatus of claim 56 wherein the second function is further dependent upon the file usage factor and the file interactivity factor.

60. (Currently Amended) The apparatus of claim 57 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Segn is the a segment size for one data object segment of the remaining data object segments,

max is the maximum function of two variables,

$\mathbf{SegSize}_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N_d} + \left(\mathbf{M_l} / \mathbf{M_l} - \mathbf{C_l} \right) + \mathbf{H} + \mathbf{I}$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the data object segments ~~of the data object~~,

$\mathbf{M_l}$ is the maximum digital data transfer load,

C_I is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

61. (Original) The apparatus of claim 42 wherein the data object is a video data file to be transferred isochronously to the second computing system.

62. (Previously Presented) A computer-readable medium for retaining a computer program code which, when executed on a computing system performs a computer program process for facilitating transfer of a data object retained by a first A method facilitating transfer of a data object retained by a first computer-readable data storage device in communication with a first computing system from said first computing system to a second computing system and thence to a second computer-readable data storage device, whereby said computer program process executes the step of segmenting said data object, said segmenting said data object comprising the steps of:

requesting a range of addresses within a computer-readable storage device in communication with said first computing system containing said data object;

determining a number of computer-readable storage devices in communication with said first computing system available to retain a plurality of segments of said data object;

determining a maximum digital data transfer load for the computer-readable storage devices in communication with said first computing system;

assigning a minimum segment size which is the smallest amount of digital data to be contained within one segment of the data object;

calculating a first segment size as a first function of a number of the computer-readable storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size;

assigning a last segment size as the minimum segment size;

calculating all remaining segment sizes as a second function of the number of the computer-readable storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size; and

partitioning said data object into segments whereby the first segment of the data object is of the first segment size, the last segment of

the data object is of the last segment size, and all the remaining segments of the data object is of the remaining segment sizes.

63. (Previously Presented) The medium of claim 62 wherein performing step of segmenting said data object further comprises the steps of:

assigning one of the number of computer-readable storage devices to retain each segment of the data object;

assigning an address within the computer-readable storage devices to identify the location of an assigned segment;

assigning an object name to each segment of the data object; and

transferring each segment to its assigned computer-readable storage device.

64. (Previously Presented) The medium of claim 62 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize_{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f = N_d + \left(M_l / M_l - C_l \right)}$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the segments of the data object,

$\mathbf{M_l}$ is the maximum digital data transfer load, and

$\mathbf{C_l}$ is the current digital data transfer load.

65. (Previously Presented) The medium of claim 62 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn = max(SegSize_{min}, V/f)}$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$\mathbf{SegSize}_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right)$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load, and

C_l is the current digital data transfer load.

66. (Previously Presented) The medium of claim 62 wherein performing step of segmenting said data object further comprises the step of:

determining a file interactivity factor describing a number of jumps by the second computing system within the data object during processing by said second computing system.

67. (Original) The medium of claim 66 wherein the first function is further dependent upon the file interactivity factor.

68. (Previously Presented) The medium of claim 67 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + I$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

I is the file interactivity factor.

69. (Original) The medium of claim 66 wherein the second function is further dependent upon the file interactivity factor.

70. (Previously Presented) The medium of claim 69 wherein the second function to determine the remaining segment sizes is:

$$Segn = \max(SegSize_{min}, V/f)$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$\mathbf{SegSize_{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N_d} + \left(\mathbf{M_l} / \mathbf{M_l} - \mathbf{C_l} \right) + \mathbf{I}$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the segments of the data object,

$\mathbf{M_l}$ is the maximum digital data transfer load,

$\mathbf{C_l}$ is the current digital data transfer load, and

I is the file interactivity factor.

71. (Previously Presented) The medium of claim 62 wherein performing step of segmenting said data object further comprises the step of:

determining a file usage factor describing a number of requests for said data object for a period of time.

72. (Previously Presented) The medium of claim 71 wherein the first function is further dependent upon the file usage factor.

73. (Previously Presented) The medium of claim 72 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

74. (Original) The medium of claim 71 wherein the second function is further dependent upon the file usage factor.

75. (Previously Presented) The medium of claim 74 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, V/f)$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$SegSize_{min}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

76. (Previously Presented) The medium of claim 62 wherein performing step of segmenting said data object further comprises the steps of:

determining a file usage factor describing a number of requests for said data object for a period of time; and

determining a file interactivity factor describing a number of jumps by the second computing system within the data object during processing by said second computing system.

77. (Original) The medium of claim 76 wherein the first function is further dependent upon the file usage factor and the file interactivity factor.

78. (Previously Presented) The medium of claim 77 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H + I$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the data object,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

79. (Original) The medium of claim 76 wherein the second function is further dependent upon the file usage factor and the file interactivity factor.

80. (Previously Presented) The medium of claim 79 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of said data object,

V is a total size of the data object, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N_d} + \left(\mathbf{M_l} / \mathbf{M_l} - \mathbf{C_l} \right) + \mathbf{H} + \mathbf{I}$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the segments of the data object,

$\mathbf{M_l}$ is the maximum digital data transfer load,

C_l is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

81. (Original) The medium of claim 62 wherein the data object is a video data file to be transferred isochronously to the second computing system.

82. (Previously Presented) A video data file distribution system in communication with a plurality of computing systems for transfer of at least one video data file of a plurality of video data files to at least one of the plurality of computing systems, comprising:

a plurality of video data file retention devices in communication with each other and with any of the plurality of computing systems; and

a segmentation apparatus in communication with the plurality of video data file retention devices to segment any of the video data files into a plurality of segments to allow transfer to and processing by at least one of the computing systems of said segments, wherein the segmentation apparatus performs said segmenting by the steps of:

requesting a range of addresses within a storage device of the first computing system containing said video data file,

determining a number of computer-readable storage devices in communication with said first computing system available to retain a plurality of segments of said video data file,

determining a maximum digital data transfer load for the computer-readable storage devices in communication with said first computing system,

assigning a minimum segment size which is the smallest amount of digital data to be contained within one segment of the video data file,

calculating a first segment size as a first function of a number of the computer-readable storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size,

assigning a last segment size as the minimum segment size,

calculating all remaining segment sizes as a second function of the number of the computer-readable storage devices, the current digital data transfer load, the maximum digital data transfer load, and the minimum segment size, and

partitioning said video data file into segments whereby the first segment of the video data file is of the first segment size, the

last segment of the video data file is of the last segment size, and all the remaining segments of the video data file is of the remaining segment sizes.

83. (Cancelled)

84. (Previously Presented) The system of claim 82 wherein the segmentation apparatus the further performs the segmenting of the video data file by the steps of:

assigning one of the number of computer-readable storage devices to retain each segment of the video data file; and

assigning an address within the computer-readable storage devices to identify the location of an assigned segment.

85. (Previously Presented) The system of claim 82 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize_{min}}$ is the minimum segment size allowed during the fragmenting of the video data file,

V is a total size of the video data file, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N_d} + \left(\mathbf{M_l} / \mathbf{M_l} - \mathbf{C_l} \right)$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the segments of the video data file,

$\mathbf{M_l}$ is the maximum digital data transfer load, and

$\mathbf{C_l}$ is the current digital data transfer load.

86. (Previously Presented) The system of claim 82 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize_{min}}, \mathbf{V/f})$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$SegSize_{min}$ is the minimum segment size allowed during the fragmenting of the video data file,

V is a total size of the video data file, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right)$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the video data file,

M_l is the maximum digital data transfer load, and

C_l is the current digital data transfer load.

87. (Previously Presented) The system of claim 82 wherein performing step of segmenting said data object further comprises the step of:

determining a file interactivity factor describing a number of jumps by the computing system within the video data file during processing by at least one of said plurality of computing systems receiving said data object.

88. (Original) The system of claim 87 wherein the first function is further dependent upon the file interactivity factor.

89. (Previously Presented) The system of claim 88 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of the video data file,

V is a total size of the video data file, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N_d} + \left(\mathbf{M_l} / \mathbf{M_l} - \mathbf{C_l} \right) + \mathbf{I}$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the segments of the video data file,

$\mathbf{M_l}$ is the maximum digital data transfer load,

$\mathbf{C_l}$ is the current digital data transfer load, and

I is the file interactivity factor.

90. (Original) The system of claim 87 wherein the second function is further dependent upon the file interactivity factor.

91. (Previously Presented) The system of claim 90 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize_{min}}, \mathbf{V/f})$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$SegSize_{min}$ is the minimum segment size allowed during the fragmenting of the video data file,

V is a total size of the video data file, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + I$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the video data file,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

I is the file interactivity factor.

92. (Previously Presented) The system of claim 82 wherein performing step of segmenting said data object further comprises the step of:

determining a file usage factor describing a number of requests for said video data file for a period of time.

93. (Original) The system of claim 92 wherein the first function is further dependent upon the file usage factor.

94. (Previously Presented) The system of claim 93 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of the video data file,

V is a total size of the video data file, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the video data file,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

95. (Original) The system of claim 92 wherein the second function is further dependent upon the file usage factor.

96. (Previously Presented) The system of claim 95 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, V/f)$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$SegSize_{min}$ is the minimum segment size allowed during the fragmenting of the video data file,

V is a total size of the video data file, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the video data file,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load, and

H is the file usage factor.

97. (Previously Presented) The system of claim 82 wherein performing step of segmenting said data object further comprises the steps of:

determining a file usage factor describing a number of requests for said video data file for a period of time; and

determining a file interactivity factor describing a number of jumps by at least one of the plurality of computing systems within the video data file during processing by at least one of said plurality of computing systems.

98. (Original) The system of claim 97 wherein the first function is further dependent upon the file usage factor and the file interactivity factor.

99. (Previously Presented) The system of claim 98 wherein the first function to determine the first segment size is:

$$\mathbf{Seg1} = \mathbf{min}(\mathbf{SegSize}_{\mathbf{min}}, \mathbf{V/f})$$

where

Seg1 is the first segment size,

min is the minimum function of two variables,

$\mathbf{SegSize}_{\mathbf{min}}$ is the minimum segment size allowed during the fragmenting of the video data file,

V is a total size of the video data file, and

f is determined by the formula:

$$f = N_d + \left(M_l / M_l - C_l \right) + H + I$$

where

N_d is the number of computer-readable storage devices available to retain the segments of the video data file,

M_l is the maximum digital data transfer load,

C_l is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

100. (Original) The system of claim 97 wherein the second function is further dependent upon the file usage factor and the file interactivity factor.

101. (Previously Presented) The system of claim 100 wherein the second function to determine the remaining segment sizes is:

$$\mathbf{Segn} = \mathbf{max}(\mathbf{SegSize}_{min}, \mathbf{V/f})$$

where

Segn is the a segment size for one segment of the remaining segments,

max is the maximum function of two variables,

$\mathbf{SegSize}_{min}$ is the minimum segment size allowed during the fragmenting of the video data file,

V is a total size of the video data file, and

f is determined by the formula:

$$\mathbf{f} = \mathbf{N_d} + \left(\mathbf{M_l} / \mathbf{M_l} - \mathbf{C_l} \right) + \mathbf{H} + \mathbf{I}$$

where

$\mathbf{N_d}$ is the number of computer-readable storage devices available to retain the segments of the video data file,

$\mathbf{M_l}$ is the maximum digital data transfer load,

C_I is the current digital data transfer load,

H is the file usage factor, and

I is the file interactivity factor.

102. (Original) The system of claim 82 wherein the video data file is transferred isochronously to the computing system.